

Serial No.: 09/783,958
Atty. Docket No.: P64425US2

REMARKS

By this Amendment, Applicants have canceled claims 45 and 51-54 without prejudice or disclaimer, amended claims 33, 36, 40, 43, 46, 48-50 and added claims 55-61. Claims 33-44, 46-50 and 55-61 are pending in the application. In view of the amendments and remarks contained herein, favorable reconsideration in this application is respectfully requested.

The Examiner objected to claims 33-54 as containing informalities which Applicants have corrected by this Amendment.

The Examiner rejected claims 33, 35, 36, 39, 40, 42 and 43 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,235,433 to Amano et al. ("Amano"). Under 35 U.S.C. 103(a), the Examiner rejected claims 37, 41 and 44 as being unpatentable over Amano in view of U.S. Patent No. 5,789,108 to Chu, rejected claim 38 as being unpatentable over Amano in view of U.S. Patent No. 5,690,702 to Skotheim, et al. ("Skotheim"), and rejected claims 45-54 as being unpatentable over Amano in view of U.S. Patent No. 4,010,405 to West.

As set forth in amended claim 33 and new claims 55 and 58, the present invention is directed to a method for manufacturing an electric energy storage device comprising the steps of preparing a common solvent for an electrolyte and for dissolving polymer, and dissolving at least one polymer selected from the group consisting of polymer of polyacrylate series, polyvinylidene fluoride, copolymer of polyvinylidene fluoride and polymer of polyether series in the common solvent to form an ionic conducting polymer electrolyte separator which is formed on a first electrode. According to claim 33, the first electrode is wound at least half a revolution,

Serial No.: 09/783,958
Atty. Docket No.: P64425US2

and then the first electrode is wound with a second electrode. Claim 55 provides, after forming the separator on the first electrode, that the first and second electrodes are wound by winding the first electrode more than the second electrode, with the first electrode being longer and wider than the second. Finally, claim 58, upon forming the separator the first electrode, sets forth the steps of forming an isolating means on the end portion of the first electrode and then winding the first and second electrodes.

In each case, the specific method steps of claims 33, 55 and 58 are not shown or suggested by the prior art. The Examiner has cited West as disclosing a wound capacitor, but this general disclosure is not sufficient to suggest the specific embodiments being claimed. Particularly, West does not teach or suggest winding the first electrode at least one half a revolution and then winding the first electrode with the second electrode (claim 33), nor winding the first electrode more than the second electrode (claim 55), nor the forming of an isolating means (claim 58). The only way in which Applicants' invention may be found to be obvious is with the benefit of Applicants' own disclosed invention, which is improper. Accordingly, favorable reconsideration and withdrawal of the rejection is requested.

Claims 34-44, 46-50, 56, 57 and 59-61 are also in condition for allowance as claims properly dependent on an allowable base claim and for the subject matter contained therein. In particular, in rejecting claim 46 the Examiner states that Amano, in Figure 1 thereof, discloses expressly the direct coating of the separator on the first electrode. However, the description of how the battery 11 shown in Figure 1 was manufactured does not support this

Serial No.: 09/783,958
Atty. Docket No.: P64425US2

interpretation. At column 13, lines 1-48, the process of manufacturing the battery is described as one in which the positive electrode active substance layer 15 is “stuck” to the positive electrode collector 13, and similarly the negative electrode active substance layer 19 is “stuck” to the negative electrode collector 17. These layers and collectors are “stacked or laminated via a polymer solid electrolyte layer 21”, but are not disclosed as being coated directly on the electrolyte layer as claimed by the present invention.

With respect to claims 48 and 49, the use of a *different* electrolyte than that of the common solvent is not shown in the prior art and, as described in the specification at page 12, line 11 to page 13, line 19, provides improved performance over using the same electrolyte as that of the common solvent.

For at least the foregoing reasons, the pending claims as amended herein are presented as being in condition for allowance. Favorable reconsideration and allowance of the amended and new claims is respectfully requested.

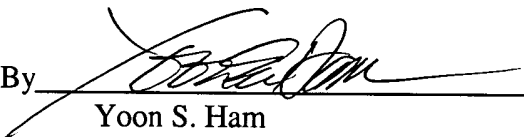
Attached hereto is a marked-up version of the changes made to the application by the current amendment. The attached pages are captioned “Version with Markings to Show Changes Made”.

Serial No.: 09/783,958
Atty. Docket No.: P64425US2

Should the Examiner have any questions or comments, the Examiner is cordially invited to telephone the undersigned attorney so that the present application can receive an early Notice of Allowance.

Respectfully submitted,

JACOBSON HOLMAN PLLC

By 
Yoon S. Ham
Reg. No. 45,307

400 Seventh Street, N.W.
Washington, D.C. 20004
Telephone: (202) 638-6666
Atty Docket: P64425US2
Date: June 17, 2003
YSH:SCB

R:\SBAILEY\6-03\VP64425US.amd

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 45 and 51-54 have been canceled and claims 33, 36, 40, 43, 46, 48-50 have been amended as follows:

33. (Amended) A method for manufacturing an electric energy storage device comprising the steps of:

forming an ionic conducting polymer electrolyte separator comprising i) preparing a common solvent for an electrolyte and for dissolving polymer and ii) dissolving at least one polymer [at least one] selected from the group consisting of polymer of polyacrylate series, polyvinylidene fluoride, copolymer of polyvinylidene fluoride and polymer of polyether series in said common solvent;

forming said separator on a first electrode, winding said first electrode at least half a revolution, and then winding said first electrode with a second electrode.

36. (Amended) The method for manufacturing an electric energy storage device as claimed in claim 35, wherein said common solvent comprises alkylammonium compounds [such as] including tetraethylammoniumtetrafluoroborate or amide compounds [such as] including tertiary amide.

40. (Amended) The method for manufacturing an electric energy storage device as claimed in claim 39, wherein said common solvent comprises alkylammonium compounds [such as] including tetraethylammoniumtetrafluoroborate or amide compounds [such as] including tertiary amide.

43. (Amended) The method for manufacturing an electric energy storage device as claimed in claim 42, wherein the step of preparing said common solvent further comprises a step of dissolving alkylammonium compounds [such as] including tetraethylammoniumtetrafluoroborate or amide compounds [such as] including tertiary amide.

46. (Amended) The method for manufacturing an electric energy storage device as claimed in claim [45] 33, wherein said method further [comprising] comprises a step of directly coating said separator on said first electrode.

48. (Amended) The method for manufacturing an electric energy storage device as claimed in claim [45] 33, wherein said method further comprises a step of injecting an additional electrolyte that is different from said common solvent in said first electrode and said second electrode.

Serial No.: 09/783,958
Atty. Docket No.: P64425US2

49. (Amended) The method for manufacturing an electric energy storage device as claimed in claim [45] 33, wherein said method further comprises a step of injecting an additional electrolyte that is identical to the common solvent of said separator [or different from the common solvent of said separator] in said first electrode and said second electrode.

50. (Amended) The method for manufacturing an electric energy storage device as claimed in claim [45] 33, wherein said first electrode is longer and wider than said second electrode.